## **Dimensional Analysis of Bow Marks on Barge GREAT LAKES**

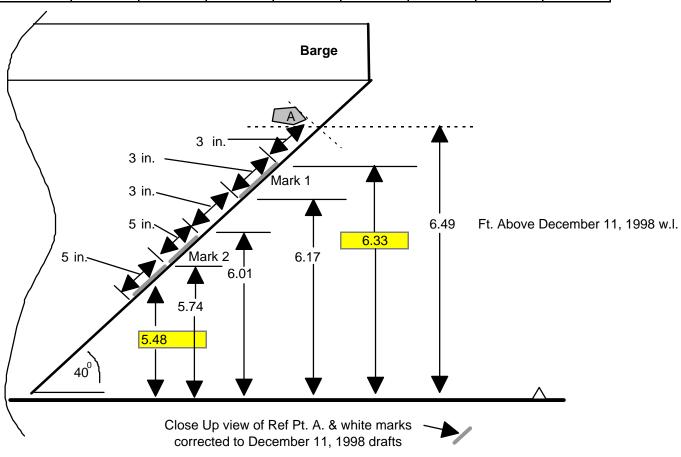
Based Upon Drafts as measured on December 22, 1998

	Aft Draft	Fwd Draft	Trim	Len btw'n Marks	Trim/L Ratio	Dist. fwd of Draft	Delta from Fwd Draft	Draft at bow/w.l.	Diff from 13' w.l.
ı	(Ft.)	(Ft.)	(in.)	(Ft.)	(in./Ft.)	Mark (Ft.)	Mark (in)	(Ft)	draft (in)
I	14.00	13.08	11	320	0.0344	37	1.27	12.98	0.27
									(negligible)

Fm Lines Drawing: L = 16.70 ft Location of Ref Pt. A fm photo = 0.6L = 10.02ft Calculated Height of Ref pt A ht abv w.l. = 6.44 ft Measured Fm Lines/Frames Dwg: 6.40 ft Height Used: 6.40 0.54 L= 9.02 ft Calc. Ht. Mark 2. = 5.80 ft Barge Fwd Draft Marks From Below: 6.01 ft Variance: 0.21 ft Ref. Pt. A or... 2.57 37 ft. 6.40 Ft. Above December 22, 1998 w.l. 0.6 L -13 ft. w.l. Enclosure (5A)

Based Upon Drafts as Record on December 11, 1998

ĺ				Len btw'n	Trim/L	Dist. fwd	Delta from	Draft at	Corr. fm
١	Aft Draft	Fwd Draft	Trim	Marks	Ratio	of Draft	Fwd Draft	bow/w.l.	22 Dec
	(Ft.)	(Ft.)	(in.)	(Ft.)	(in./Ft.)	Mark (Ft.)	Mark (in)	(Ft)	draft (in)
	14.00	13.00	12	320	0.0375	37	1.39	12.88	1.12



Enclosure (5B)